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DERMATOGLYPHICS IN PEOPLES OF THE NEAR EAST

I. LEBANESE: MITWALI

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121 This report is presented as a record of data toward an eventual analysis of racial variation in dermatoglyphics. It is to be hoped that a broad comparison of races on this basis may be eventually possible, but it will be necessary to continue the accumulation of records on various populations, perhaps from time to time taking stock of progress as has been done recently by Steggerda, Steggerda and Lane for the palmar features (Middle American Research Series, publication 7, Tulane University, '36).

124 101 795 The material here treated represents a population not hitherto investigated from the standpoint of dermatoglyphics. The Mitwali are a Syrian mountain people, living in the southern Lebanon range. They are Moslems, but adhere to the Shiite sect rather than to the Sunni which is common to the region. There are 138 subjects in the series, males and females being in the proportion of about two to one; in view of the small numbers the sexes are combined. The subjects are mainly children in the government schools, the adult population having proved generally unsuitable for printing—on account of extensive callouses.

141 128 The palmar features, main lines and patterns, are tabulated in tables 1 and 2, their formulations following the methods of Cummins et al. (Am. J. Phys. Anthrop., XII, '29).

The data on lines A and D have been further analyzed, to determine the main-line index which has been suggested by Cummins (Middle American Research Series, Tulane University, publication 7, '36) as a value denoting the degree of slant of the general palmar configuration. For the 276 hands

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in this collection the mean index is 8.50 ± 0.09. Right hands alone yield a mean of 9.33 ± 0.11, and the lefts, 7.67 ± 0.12.

Axial triradii present the following percentile occurrences, right and left hands being here combined since no significant

TABLE 1

Terminations of the palmar main lines, stating the percentile occurrence of each position

POSITION	LINE A			LINE B			LINE C			LINE D		
	R	L	Both	R	L	Both	R	L	Both	R	L	Both
1	0.7	9.4	5.0									
2	0.7	7.2	3.9									
3	34.1	52.2	43.1									
4	10.1	9.4	9.7		0.7	0.3						
5'	49.3	21.7	35.5	2.2	4.3	3.2						
5"	5.1		2.5	31.2	49.3	40.2	5.8	15.9	10.8			
6				9.4	11.6	10.5	2.9	2.9	2.9			
7				50.0	32.6	41.3	18.8	23.2	21.0	5.8	16.7	11.2
8				3.6		1.8				2.2	2.9	2.5
9				3.6		1.8	53.6	31.2	42.4	26.1	34.8	30.4
10							3.6		1.8	8.7	11.6	10.1
11							2.9		1.4	37.2	33.3	45.2
X							5.1	17.4	11.2			
3							0.7	2.2	1.4			
O					1.4	0.7	6.5	7.2	6.8		0.7	0.3

R = right, L = left.

TABLE 2

Percentile occurrences of true patterns and pattern vestiges (not including 'multiplications') of the five palmar areas

PATTERN	RIGHT	LEFT	BOTH
Hypothenar	32.6	29.7	31.1
Thenar/first interdigital	8.7	19.6	14.1
Second interdigital	9.4	3.6	6.5
Third interdigital	68.1	47.8	57.9
Fourth interdigital	47.8	67.4	57.6

bimanual differences are noted: 0, 0.7; t, 71.7; t', 14.5; t", 1.1; tt', 6.9; tt", 4.0; tt't", 0.4; t't", 0.7.

Frequencies of the finger-print types, classified by the usual fourfold scheme, are as follows: arches, 2.7%; radial loops, 4.2%; ulnar loops, 50.9%; whorls, 42.2%. The abundance of whorls is noteworthy.

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As pointed out by Cummins and Steggerda (Am. J. Phys. Anthrop., XX, '35), the pattern types may be regarded as variants of 'pattern intensity.' The arch is not a pattern in the strict sense of the term, while loops and whorls may be regarded as levels of successively increasing pattern intensity. For statistical purposes arbitrary values are assigned to the pattern types: arch, 0; loop, 1; whorl, 2. The complement of patterns in an individual is then converted into the 'index of pattern intensity' by summating the values of

TABLE 3

Percentile occurrences of pattern types for each digit

Digit	I			II			III		
Hand	R	L	Both	R	L	Both	R	L	Both
Whorls	68.1	55.8	61.9	52.2	47.8	50.0	27.5	31.9	29.7
Ulnar loops	29.0	42.8	35.9	22.5	27.5	25.0	66.7	62.3	64.5
Radial loops	1.4	0.7	1.0	18.8	17.4	18.1	1.4	1.4	1.4
Arches	1.4	0.7	1.0	6.5	7.2	6.8	4.3	4.3	4.3
Digit	IV			V					
Hand	R	L	Both	R	L	Both			
Whorls	50.0	44.2	47.1	24.6	20.3	22.4			
Ulnar loops	48.6	55.8	52.2	74.6	79.0	76.8			
Radial loops	0.7	0.0	0.3	0.0	0.0	0.0			
Arches	0.7	0.0	0.3	0.7	0.7	0.7			

R = right, L = left.

the ten patterns. The indices therefore range from 0, indicating ten arches, to 20, the value for ten whorls. The mean index in the present series is 13.96 ± 0.20. As a matter of record, providing for other statistical determinations such as the dactylodiagram of Poll, the frequencies of pattern types on separate digits are here recorded in table 3.

SUMMARY

Palmar main lines, axial triradii, palmar patterns and fingerprint patterns are analyzed in 138 Mitwali, a Syrian mountain population. It may be noted that the features present a close relationship to another Lebanese series as well as to the Bwala Arabs (unpublished data).

Lebanon MEI
→ Syria MDI

L
174 The Armenians are similar to the Lebanese in many of their characteristics but Professor Coon believes they represent a mixture of Alpine brachycephalics with the long headed Indo-Europeans. It will not be feasible to discuss Armenian racial origins in this paper as that involves the extensive racial movements in Iran, Turkey, Southern Russia and the Caucasus.

It does not appear that the Druzes migrated into Southern Lebanon and the Jebel Druze from outside as many believe. Likewise, the same is true for the Mitwali who are Shiite Moslems. Most likely religious leaders from outside Syria entered these districts and influenced the peoples already living there to accept these doctrines.

The Lebanese are remarkably homogeneous and the Mitwali, the Bekaa males, and the Druzes are almost identical in their morphology. The scant data at hand suggests the same is true for the Maronites.

S
141 The desert border: The anthropology of the desert border inhabitants is as complicated as that of the Lebanese is simple. Six groups
162 have been studied along the desert border — two Christian and four Moslem. The Christians were in Khardah, near Hama, and in Hafar, north of Damascus. The Moslems were in Hama, Hidjanah and surrounding villages some twenty kilometers south of Damascus, in Hama in the center of the Hauran and Circassians in and around Kunaitra.

S
141 One of the statistical measures used to determine racial likeness is the significance ratio. I will not bother here with the formula, but will only say that if the significance ratio is three or less the inference is that the groups are not demonstrably different. Bear in mind I am not saying this is absolute proof but it is very suggestive.

It is interesting to point out that in every case the average significance ratio between each of the six desert border groups was above three. In other words, each group is strikingly different from the other. One might expect the Christian villagers to be closer to each other than they are to the surrounding Moslems, yet such is not the case. The mean significance ratio for the Khardah and the Hafar Christians is 3.40. The chief difference between these groups is head form, for the Khardah men tend to be round headed, mean cephalic index 80%, whereas the Hafar men are long headed men, 76%. In turn, the Hafar Christians when compared with the Hama Moslems have a mean significance ratio of 3.47, and a mean ratio of 3.40 when compared with the Aheydeb Bedouin. The Hidjanah Moslems are the most divergent. But in spite of these differences we can say in general that the desert border dwellers are intermediate between the mountain dwelling Lebanese and the desert Bedouin. Or putting it another way, they are between the Lebanese Dinaric and the desert Mediterranean.

S
141 It is not surprising that the desert border villagers show such
144 a great diversity, for this area has been subjected to numerous invasions. These plains and desert border cities have been ruled within historical times by Babylonians, Assyrians, Arameans, Amorites, Hebrews, Romans,

Syria MD1
Syrian Bedouin MD6

S
141 Nabateans, Arabs and Turks. In the region of Hama, the Hittites also had
144 important cities, for in Hama itself excellent examples of Hittite lions were excavated by Dr. Ingholt.

This racial zone in which the peoples of the different villages are dissimilar is not confined to the Syrian desert border but it also extends across northern Palestine and includes the villagers in Transjordan. Professor Keppers suggests that these peoples are representatives of the old Amorites. Personally, I believe that is an oversimplification of the problem. There may well be representatives of the Amorites but also many other racial groups are represented. It is interesting to point out, however, that hyperbrachycephalic peoples, so far at least, have not been encountered, though they are so prevalent in the Lebanons. This may be connected with habits of infant care.

B
101 In the desert: Five Bedouin tribes have been studied, the Rwala
144 or Sha'alan, the Muwaly and the Abeydat in the Syrian desert and the Howeitat and Beni Sakhr in the Transjordan. Bear in mind that these Bedouin tribes are most probably the purest members of the Mediterranean race living today. Since the dawn of Near East history, migration has been from the desert to the fertile plains and the cities, from the nomad to the semi-nomad.

B
141 In my first studies in the Syrian desert, a very interesting
144 point was discovered. Whereas the Abeydat and the Muwaly Bedouin were very similar in their measurements and indices, mean significance ratio 2.21, the Muwaly-Rwala mean significance ratio was 9.84 and the Abeydat-Rwala 5.45. Later studies in the Transjordan desert on the Howeitat and Beni Sakhr Bedouin showed they were similar to each other, Beni Sakhr-Howeitat mean significance ratio was 2.57 and they in turn were close to the Rwala, the Beni Sakhr-Rwala ratio being 2.87. This marked splitting of these desert tribes suggests that these Bedouin belong to two different varieties of the Mediterranean race.

B
142 In spite of differences in measurements, the observable characteristics of the Bedouin are very similar. The hair form is usually straight or has low waves, the color is black or dark brown, with about 10% light brown. In quantity the facial hair is far below the average. Many Bedouin have a very sparse beard. The eye color is usually dark brown or light brown with eyes of mixed colors rather frequent among some of the tribes. For example: the Rwala have 22% grey-brown and 4% blue-brown eyes. Pure blue eyes were observed twice among the Muwaly, but not among the other Bedouin. The skin color of the Bedouin is brunet, light or dark brown. Fair skins are but rarely seen in the desert. The Bedouin is frequently pictured as having a very convex nose. Certainly that is incorrect for the Rwala and Muwaly have less than 10% of convex noses and the maximum is 28% for the Beni Sakhr. The Bedouin nose is actually large, very high, but straight and relatively thin.